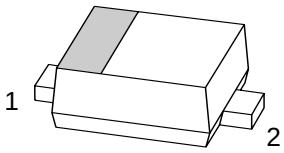
BB179

UHF variable capacitance diode

Features

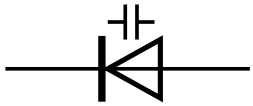
- Excellent linearity
- Excellent matching to 1.8 % DMA
- Ultra small plastic SMD package
- $C_{d(25V)}$: 2.05 pF; $C_{d(2V)}$ to $C_{d(25V)}$ ratio: 6.3 min.
- Low series resistance



SOD-523

Applications

- Voltage Controlled Oscillators (VCO)
- Electronic tuning in UHF television tuners



In accordance with the Absolute Maximum Rating System

Symbol	Parameter	Conditions	Min	Max	Unit
V_R	reverse voltage		-	32	V
I_F	forward current		-	20	mA
T_{stg}	storage temperature		–55	+150	°C
T_j	junction temperature		–55	+125	°C

T_j = 25 °C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I_R	reverse current	see Figure 2				
		V_R = 30 V	-	-	10	nA
		V_R = 30 V; T_j = 85 °C	-	-	200	nA
r_s	diode series resistance	f = 470 MHz at C_d = 9 pF	-	0.6	0.7	Ω
C_d	diode capacitance	f = 1 MHz; see Figure 1 and Figure 3				
		V_R = 2 V	14.15	-	15.75	pF
		V_R = 25 V	1.89	-	2.18	pF
$C_{d(2V)}/C_{d(25V)}$	diode capacitance ratio (2 V to 25 V)	f = 1 MHz	6.3	-	-	
$\Delta C_d/C_d$	diode capacitance matching	V_R = 2 V to 25 V; in sequence of 10 diodes (gliding)	-	-	1.8	%

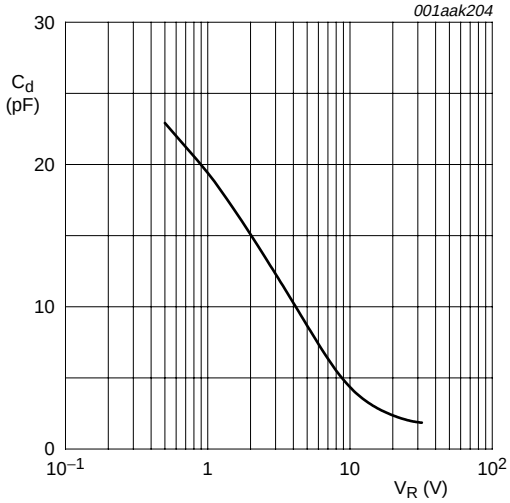


Fig 1. Diode capacitance as a function of reverse voltage; typical values

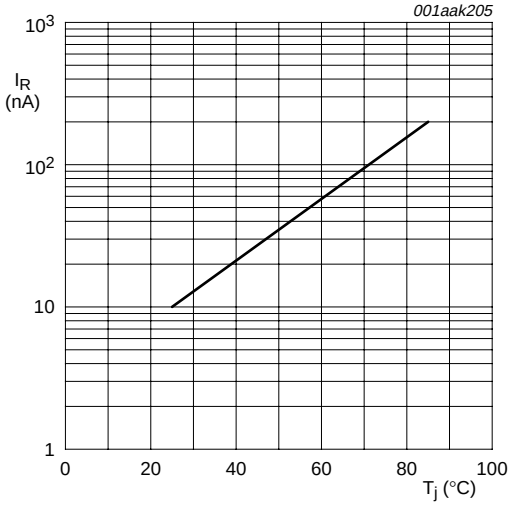
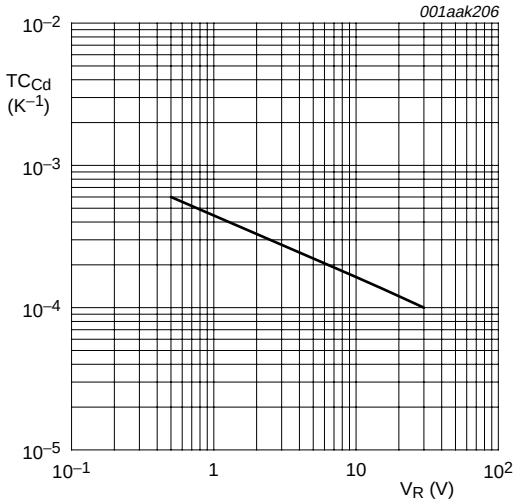


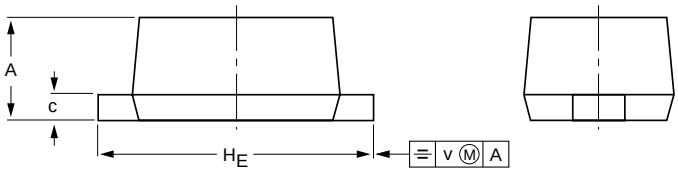
Fig 2. Reverse current as a function of junction temperature; maximum values

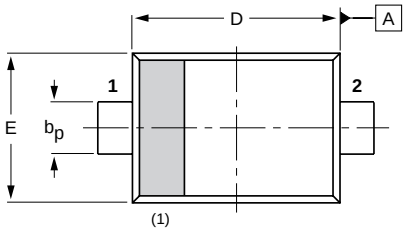


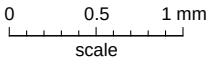
T_j = 0 °C to 85 °C.

Fig 3. Temperature coefficient of diode capacitance as a function of reverse voltage; typical values

Plastic surface-mounted package; 2 leads **SOD523**







DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	H_E	v
mm	0.65 0.58	0.34 0.26	0.17 0.11	1.25 1.15	0.85 0.75	1.65 1.55	0.1